Protein-protein interactions as exemplified for 14-3-3

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14-3-3 proteins recognize short serine- or threonine-phosphorylated peptide motifs in hundreds of their partner proteins and modulate the behaviour of these target proteins upon binding. Since 14-3-3 proteins regulate many proteins involved in human disease like the Raf kinases (Cancer), Tau (Alzheimer's), LRRK2 (Parkinson's), CFTR (Cystic fibrosis), and ChREBP (Diabetes) enhancing or inhibiting these interactions could convey a therapeutic benefit. Especially in the aforementioned examples, stabilization of the 14-3-3 protein-protein complexes is interesting. We have developed small molecules that act as molecular glues to stabilize a number of 14-3-3/target protein complexes by binding to pockets in the interface between the two proteins. In this talk, the discovery, principal features and structural biology of these 14-3-3 molecular glues will be presented and application for intervention in human diseases will be discussed.

[1] S. Name1, Z. Name2, N. Name3, *Chimia*, **2015**, *69*, 500-510.
[2] …